

CLAIMS

1. A honeycomb filter for purifying exhaust gases which has a structure in which:

5 a columnar body made of porous ceramic comprises a number of through holes, said through holes being placed in parallel with one another in the length direction with a wall portion interposed therebetween;

predetermined through holes of said through holes are
10 filled with plugs at one end of said columnar body, while the through holes that have not been filled with said plugs at said one end are filled with plugs at the other end of said columnar body; and

a part or all of said wall portion functions as a filter
15 for collecting particulates

wherein

the porosity of said columnar body is in a range from 20 to 80%, and the porosity of said plug is 90% or less and is also set to 0.15 to 4.0 times as much as the porosity of said columnar
20 body.

2. The honeycomb filter for purifying exhaust gases according to claim 1,

wherein the porosity of the plug is set to 0.25 to 1.5
25 times as much as the porosity of the columnar body.

3. The honeycomb filter for purifying exhaust gases according to claim 1 or 2,

wherein a catalyst is supported thereon.
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4. The honeycomb filter for purifying exhaust gases according to any one of claims 1 to 3,

wherein a catalyst supporting film is placed on the surface thereof.
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5. The honeycomb filter for purifying exhaust gases according to any one of claims 1 to 4,

wherein, as a method for removing fine particles that have been collected and accumulated, a back-washing process using
5 a gas flow is adopted.

6. The honeycomb filter for purifying exhaust gases according to any one of claims 1 to 4,

wherein a method of heating the exhaust gases is adopted
10 to remove fine particles that have been collected and accumulated.